REMARKS

Applicants respectfully request further examination and reconsideration in view of the above amendments and the comments set forth fully below. Claims 31-43 were pending. Within the Office Action, Claims 31-43 have been rejected. By the above amendment, Claims 31, 34-36, 38 and 43 have been amended and new Claims 44 and 45 have been added. Accordingly, Claims 31-45 are now pending.

Rejections Under 35 U.S.C. § 112

Within the Office Action, Claims 31-37 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. Specifically, it is stated that Claims 31-33 and 35-37 are indefinite because it is unclear whether the drain is associated with both the first and second bank of vials. By the above amendment, Claim 31 has been amended to recite "coupling a waste tube to a selective one of a first drain and a second drain within a purging system, wherein the first drain is associated with the first bank of vials and the second drain is associated with the second bank of vials." Accordingly, it is clear from this limitation that the first drain is associated with the first bank of vials and the second drain is associated with the second bank of vials. For at least these reasons, Claims 31-33 and 35-37 are definite and do particularly point out and distinctly claim the subject matter which applicants regard as the invention.

It is also stated within the Office Action, that Claim 34 is indefinite because it is unclear whether a single drain is associated with both the first vial and the second vial or just one of the vials. By the above amendment, Claim 34 has been amended to recite "coupling a selective one of a first drain and a second drain with a waste tube, wherein the first drain is associated with the first vial and the second drain is associated with the second vial." Accordingly, it is clear from this limitation in Claim 34 that the first drain is associated with the first vial and the second drain is associated with the second vial. For at least these reasons, Claim 34 is definite and does particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For at least these reasons, it is respectfully requested that the rejection of Claims 31-37 under 35 U.S.C. § 112, second paragraph, be withdrawn.

Rejections Under 35 U.S.C. § 102

Within the Office Action, Claims 31-33, 35 and 39-41 have been rejected under 35 U.S.C. § 102(a) as being anticipated by PCT Publication No. 98/10857 to Zuckermann et al. (hereinafter "Zuckermann"). The applicants respectfully disagree.

Zuckermann teaches an actuation means for use in solid phase chemical synthesis involving arrays of modular reaction vessels. The apparatus taught by Zuckermann includes a plurality of reaction vessels arranged in a substantially linear array. [Zuckermann, Abstract] The reaction vessels of Zuckermann include modular valving means capable of being simultaneously actuated to drain or close each of the reaction vessels in the array. [Zuckermann, Abstract] Zuckermann does not teach coupling a waste tube to a selective one of a first drain and a second drain, wherein the first drain is associated with a first bank of vials and the second drain is associated with a second bank of vials.

In contrast to the teachings of Zuckermann, the multi-well rotary synthesizer includes a controller, a plurality of precision fit vials circularly arranged in multiple banks on a cartridge, a drain corresponding to each bank of vials, a chamber bowl, a plurality of valves for delivering reagents to selective vials and a waste tube system for purging material from the vials. [Specification, p. 3, lines 8-11] The banks of vials can also be selectively purged, allowing the banks of vials to be used to synthesize different polymer chains. [Specification, p. 3, lines 8-11] The plurality of vials are held within the cartridge and divided among individual banks. [Specification, page 3, lines 15-16] Each individual bank of vials has a corresponding drain. [Specification, page 3, line 16] The reagent solution is purged from a bank of vials by rotating the cartridge until the corresponding drain is positioned above the waste tube system and coupling the waste tube system to the corresponding drain. As discussed above, Zuckermann does not teach coupling a waste tube to a selective one of a first drain and a second drain, wherein the first drain is associated with the first bank of vials and the second drain is associated with the second bank of vials.

The independent Claim 31 is directed to a method of selectively and sequentially dispensing a plurality of reagent solutions to a plurality of vials divided into a first bank of vials and a second bank of vials and selectively purging material from the first bank of vials and the second bank of vials. The method of Claim 31 comprises the steps of dispensing one or more of the plurality of reagent solutions to a selective one or more of the plurality of vials, to perform synthesis within the selective one or more of the plurality of vials, coupling a waste tube to a selective one of a first drain and a second drain within a purging system, wherein the first drain is

associated with the first bank of vials and the second drain is associated with the second bank of vials and purging material from the selected one of the first bank of vials and the second bank of vials through the purging system. As discussed above, Zuckermann does not teach coupling a waste tube to a selective one of a first drain and a second drain within a purging system, wherein the first drain is associated with the first bank of vials and the second drain is associated with the second bank of vials. For at least these reasons, the independent Claim 31 is allowable over the teachings of Zuckermann.

Claims 32, 33 and 35 are all dependent on the independent Claim 31. As described above, the independent Claim 31 is allowable over the teachings of Zuckermann. Accordingly, the Claims 32, 33 and 35 are all also allowable as being dependent on an allowable base claim.

The independent Claim 39 is directed to a method of selectively and sequentially dispensing a plurality of reagent solutions to a plurality of vials divided into a first bank of vials and a second bank of vials and selectively purging material from the first bank of vials and the second bank of vials. The method of Claim 39 comprises dispensing one or more of the plurality of reagent solutions to a selective one or more of the plurality of vials, to perform synthesis within the selective one or more of the plurality of vials and purging material from the selected one of the first bank of vials and the second bank of vials. Zuckermann does not teach purging material from the selected one of the first bank of vials and the second bank of vials. For at least these reasons, the independent Claim 39 is allowable over the teachings of Zuckermann.

Claims 40 and 41 are both dependent on the independent Claim 39. As described above, the independent Claim 39 is allowable over the teachings of Zuckermann. Accordingly, the Claims 40 and 41 are both also allowable as being dependent on an allowable base claim.

Within the Office Action, Claims 34, 42 and 43 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,053,454 to Judd (hereinafter "Judd"). Judd teaches a multiple polymer synthesizer. The applicants respectfully disagree.

Judd teaches a multiple polymer synthesizer for simultaneously performing a multiplicity of synthesis reactions. The synthesizer of Judd includes a glass reaction vessel 4. [Judd, col. 2, lines 51-53] The reaction vessel 4 includes an access port 13 and a synthesis compartment 5. [Judd, col. 2, lines 53-59] A porous barrier 6 is included at the lower end of the synthesis compartment 5 to prevent the escape of material present within the synthesis compartment 5. [Judd, col. 3, lines 3-12]

The synthesizer of Judd includes a base 12 which includes an upper platform 14 and a lower platform 16. [Judd, col. 3, lines 54-56] Judd teaches that the upper platform 14 includes a plurality of inlets 18, each configured to receive the exit channel 8 of a reaction vessel 4. Judd teaches that a multi-position valve, such as a manually-operated stopcock 11, is disposed within exit channel 8 between synthesis compartment 5 and exit port 9. [Judd, col. 3, lines 29-31] Judd also teaches that when the stopcock 11 is open and under conditions of reverse pressure, fluid will pass from the synthesis compartment 5, into the exit channel 8, and through the exit port 9. [Judd, col. 3, lines 31-35] Judd does not teach coupling a selective one of a first drain and a second drain with a waste tube, wherein the first drain is associated with the first vial and the second drain is associated with the second vial. As described above, Judd teaches that to remove fluid from the synthesis compartment 5, the stopcock 11 is manually operated.

In contrast to the teachings of Judd, the multi-well rotary synthesizer includes a controller, a plurality of precision fit vials circularly arranged in multiple banks on a cartridge, a drain corresponding to each bank of vials, a chamber bowl, a plurality of valves for delivering reagents to selective vials and a waste tube system for purging material from the vials. [Specification, p. 3, lines 8-11] The banks of vials can also be selectively purged, allowing the banks of vials to be used to synthesize different polymer chains. [Specification, p. 3, lines 8-11] The plurality of vials are held within the cartridge and divided among individual banks. [Specification, page 3, lines 15-16] Each individual bank of vials has a corresponding drain. [Specification, page 3, line 16] The reagent solution is purged from a bank of vials by rotating the cartridge until the corresponding drain is positioned above the waste tube system and coupling the waste tube system to the corresponding drain. As discussed above, Judd does not teach coupling a selective one of a first drain and a second drain with a waste tube, wherein the first drain is associated with a first vial and the second drain is associated with a second vial.

The independent Claim 34 is directed to a method of selectively purging material from a selective one of a first vial and a second vial in which synthesis is taking place. The method of Claim 34 comprises the steps of coupling a selective one of a first drain and a second drain with a waste tube, wherein the first drain is associated with the first vial and the second drain is associated with the second vial, forming a pressure differential between an interior and an exterior of the selective one of the first vial and the second vial, thereby expelling material from the selective one of the first vial and the second vial through the waste tube and uncoupling the selective one of the first drain and the second drain from the waste tube after the material has been purged. As discussed above, Judd does not teach coupling a selective one of a first drain

and a second drain with a waste tube, wherein the first drain is associated with the first vial and the second drain is associated with the second vial. Further, Judd does not teach uncoupling the selective one of the first drain and the second drain from the waste tube after the material has been purged. For at least these reasons, the independent Claim 34 is allowable over the teachings of Judd.

The independent Claim 42 is directed to a method of selectively purging material from a selective one of a first vial and a second vial in which synthesis is taking place. The method of Claim 42 comprises coupling a waste tube to a selective one of a first drain corresponding to the first vial and a second drain corresponding to the second vial and forming a pressure differential between an interior and an exterior of the selective one of the first vial and the second vial, thereby expelling material from the selective one of the first vial and the second vial through the waste tube. As discussed above, Judd does not teach coupling a waste tube to a selective one of a first drain corresponding to the first vial and a second drain corresponding to the second vial. For at least these reasons, the independent Claim 42 is allowable over the teachings of Judd.

Claim 43 is dependent on the independent Claim 42. As described above, the independent Claim 42 is allowable over the teachings of Judd. Accordingly, the Claim 43 is also allowable as being dependent on an allowable base claim.

Rejections Under 35 U.S.C. § 103

Within the Office Action, Claims 34, 36-38, 42 and 43 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Zuckermann in view of U.S. Patent No. 6,083,682 to Campbell et al. (hereinafter "Campbell") and/or Judd and/or U.S. Patent No. 5,792,430 to Hamper (hereinafter "Hamper"). The applicants respectfully disagree.

As described above, Zuckermann teaches an actuation means for use in solid phase chemical synthesis involving arrays of modular reaction vessels. The apparatus taught by Zuckermann includes a plurality of reaction vessels arranged in a substantially linear array. [Zuckermann, Abstract] The reaction vessels of Zuckermann include modular valving means capable of being simultaneously actuated to drain or close each of the reaction vessels in the array. [Zuckermann, Abstract] As recognized within the Office Action, Zuckermann does not teach a drain attached to a vacuum source. Instead, Campbell, Judd and Hamper appear to be cited for this proposition.

Campbell teaches a system and method for solid-phase parallel synthesis of a combinatorial collection of compounds. As illustrated in Figure 2, Campbell teaches a reaction

vessel assembly 22 having a plurality of stackable middle plates 24 and a pair of end plates 26 and 28. [Campbell, col. 10, lines 20-22, Figure 2] Campbell teaches that the reagent source 44 delivers its chemical to manifold 42 through a tube 46 which in turn is connected to a delivery means, such as a pump 48. [Campbell, col. 10, lines 55-61] Campbell then teaches that after circulating through the vertical columns of reaction vessels 30 which are aligned with the manifold in end plate 28, the chemical enters into manifold 42 in end plate 26 and into a tube 52 where it is circulated back into reagent source 44. [Campbell, col. 10, line 66 - col. 11, line 3] Campbell does not teach coupling a selective one of a first drain and a second drain with a waste tube, wherein the first drain is associated with the first vial and the second drain is associated with the second vial.

As described above, Judd teaches that a multi-position valve, such as a manually-operated stopcock 11, is disposed within exit channel 8 between synthesis compartment 5 and exit port 9. [Judd, col. 3, lines 29-31] Judd also teaches that when the stopcock 11 is open and under conditions of reverse pressure, fluid will pass from the synthesis compartment 5, into the exit channel 8, and through the exit port 9. [Judd, col. 3, lines 31-35] As discussed above, Judd does not teach coupling a selective one of a first drain and a second drain with a waste tube, wherein the first drain is associated with the first vial and the second drain is associated with the second vial. As described above, Judd teaches that to remove fluid from the synthesis compartment 5, the stopcock 11 is manually operated.

Hamper teaches a solid phase organic synthesis device with pressure-regulated manifold. Hamper teaches that a side wall of the device includes a vacuum port 26 connected by a flexible hose 28a to a conventional waste trap 29, which in turn is connected by a flexible hose 28b to a conventional vacuum pump via an on/off valve 31. [Hamper, col. 4, lines 23-30, Figure 2] Hamper does not teach coupling a selective one of a first drain and a second drain with a waste tube, wherein the first drain is associated with the first vial and the second drain is associated with the second vial.

As described above, none of the cited references Zuckermann, Campbell, Judd or Hamper teach coupling a selective one of a first drain and a second drain with a waste tube, wherein the first drain is associated with the first vial and the second drain is associated with the second vial. Accordingly, neither Zuckermann nor Campbell nor Judd nor Hamper nor their combination teach coupling a selective one of a first drain and a second drain with a waste tube, wherein the first drain is associated with the first vial and the second drain is associated with the second vial.

In contrast to the teachings of Zuckermann, Campbell, Judd, Hamper and their combination, the multi-well rotary synthesizer includes a controller, a plurality of precision fit vials circularly arranged in multiple banks on a cartridge, a drain corresponding to each bank of vials, a chamber bowl, a plurality of valves for delivering reagents to selective vials and a waste tube system for purging material from the vials. [Specification, p. 3, lines 8-11] The banks of vials can also be selectively purged, allowing the banks of vials to be used to synthesize different polymer chains. [Specification, p. 3, lines 8-11] The plurality of vials are held within the cartridge and divided among individual banks. [Specification, page 3, lines 15-16] Each individual bank of vials has a corresponding drain. [Specification, page 3, line 16] The reagent solution is purged from a bank of vials by rotating the cartridge until the corresponding drain is positioned above the waste tube system and coupling the waste tube system to the corresponding drain. As discussed above, neither Zuckermann nor Campbell nor Judd nor Hamper nor their combination teach coupling a selective one of a first drain and a second drain with a waste tube, wherein the first drain is associated with the first vial and the second drain is associated with the second vial.

The independent Claim 34 is directed to a method of selectively purging material from a selective one of a first vial and a second vial in which synthesis is taking place. The method of Claim 34 comprises the steps of coupling a selective one of a first drain and a second drain with a waste tube, wherein the first drain is associated with the first vial and the second drain is associated with the second vial, forming a pressure differential between an interior and an exterior of the selective one of the first vial and the second vial, thereby expelling material from the selective one of the first vial and the second vial through the waste tube and uncoupling the selective one of the first drain and the second drain from the waste tube after the material has been purged. As discussed above, neither Zuckermann nor Campbell nor Judd nor Hamper nor their combination teach coupling a selective one of a first drain and a second drain with a waste tube, wherein the first drain is associated with the first vial and the second drain is associated with the second vial. For at least these reasons, the independent Claim 34 is allowable over the teachings of Zuckermann, Campbell, Judd, Hamper and their combination.

Claims 36-38 are all dependent on the independent Claim 31. As described above, the independent Claim 31 is allowable over the teachings of Zuckermann. Accordingly, the Claims 36-38 are all also allowable as being dependent on an allowable base claim.

The independent Claim 42 is directed to a method of selectively purging material from a selective one of a first vial and a second vial in which synthesis is taking place. The method of

Claim 42 comprises coupling a waste tube to a selective one of a first drain corresponding to the first vial and a second drain corresponding to the second vial and forming a pressure differential between an interior and an exterior of the selective one of the first vial and the second vial, thereby expelling material from the selective one of the first vial and the second vial through the waste tube. As discussed above, neither Zuckermann nor Campbell nor Judd nor Hamper nor their combination teach coupling a waste tube to a selective one of a first drain corresponding to the first vial and a second drain corresponding to the second vial. For at least these reasons, the independent Claim 42 is allowable over the teachings of Zuckermann, Campbell, Judd, Hamper and their combination.

Claim 43 is dependent on the independent Claim 42. As described above, the independent Claim 42 is allowable over the teachings of Zuckermann, Campell, Judd, Hamper and their combination. Accordingly, the Claim 43 is also allowable as being dependent on an allowable base claim.

Applicants respectfully submit that the claims, as amended, are now in a condition for allowance, and allowance at an early date would be appreciated. Should the Examiner have any questions or comments, they are encouraged to call the undersigned at (408) 530-9700 to discuss the same so that any outstanding issues can be expeditiously resolved.

Respectfully submitted,
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